Technical Project Planning Meeting – Former Fort Townsend

Military Munitions Response Program

Fort Worden, Washington

May 1, 2007

US Army Corps of Engineers

Shaw®

Agenda

- Introduction
- Review Site Inspection Objectives
  - Background
  - Goals, Objectives, Roles & Responsibilities
  - Site Inspection Process
  - Technical Project Planning (TPP) Process
- Fort Townsend
  - Review of background information
  - SI Technical Planning – Scope of SI
- Discuss Issues
  - Data Quality Objectives
  - Human health and ecological risk screening
  - Access agreements
- Summary
  - Action Items

Background

- For decades, Department of Defense (DoD) had used military munitions on their land for training and testing to achieve force readiness
- When the lands, no longer needed by DoD, are put to another use, it is necessary to protect human health and the environment from potential hazards

What Could Be There?

- Munitions and Explosives of Concern (MEC)
  - Unexploded Ordnance (UXO)
  - Discarded Military Munitions
  - Explosive Munitions Constituents
- Munitions Constituents (MC)
  - Explosives at low concentrations
  - Metals

Why Now?

- In 2002 Congress passed the National Defense Authorization Act requiring DoD to:
  - Create an inventory of defense sites known or suspected of containing munitions or munitions constituents
  - Prioritize sites needing action
  - Give Congress a response plan

DoD's Response

- Military Munitions Response Program
- DoD has identified over 3,300 sites
- Active installations (1,333)
- Base Realignment & Closure (318)
- Formerly Used Defense Sites—FUDS (1,658)
- Site Inspections to be completed by 2010

Formerly Used Defense Sites (FUDS)

- Real property that was under the jurisdiction of the Secretary of Defense
- Owned by, leased by, or otherwise possessed by the United States
- Transferred from DoD control prior to 10/17/86

Site Inspection (SI) Goal

- Are munitions and explosives of concern (MEC) or munitions constituents (MC) present?

Objectives of Site Inspection

- Eliminate a site from further action (No DoD Action Indicated [NDAI])
  - No evidence of MEC
  - MC concentrations < background and action level
- Determine potential need to investigate further
  - MEC Identified
  - MC concentrations > background and action level
    - Remedial Investigation (RI)
    - Feasibility Study (FS)
    - Removal Action

Yardsticks

- SI provides information needed for
  - EPA's Hazard Ranking System for National Priorities List (Superfund) sites
  - DoD's Munitions Response Site Prioritization Protocol (MRSPP)

FUDS Site Inspections

- U.S. Army Corps of Engineers (USACE)
- Shaw Environmental, Inc.
- Washington State Department of Ecology
- U.S. Environmental Protection Agency
- Stakeholders--Land owners, residents, public, other Agencies

SI Process

- Review existing data
- Technical Project Planning (TPP)
- Site-Specific Work Plan (SSWP)
- Field work
- SI Report

TPP Process

- Meet stakeholders & identify concerns
- Identify Areas of Concern (AOCs)
- Review site information
- Verify current & future land use
- Develop a Conceptual Site Model (CSM)
- Identify & address Data Gaps
- Develop Data Quality Objectives (DQOs)
- Concur on field work approach

Former Fort Townsend FUDS

- Located 4 miles south of Port Townsend in Jefferson County
- Comprised of 614.75 acres
- Consists of 3 ranges (AOCs)
  - Demo Range (acre)
  - Burn Pit (1 acre)
  - Possible Small Arms Range (21.37 acres)

Fort Townsend History

- Built to protect settlers from Indians (1857-1861)
- War Department acquired in 1859
- 1874 rebuilt with active garrison
- Fire destroyed barracks 1895
- Caretaker status until WWII

Fort Townsend History (cont'd.)

- 1930 an emergency landing field was built on the old garden plots of Fort Townsend
- A small arms range existed in this area some time between 1930 and 1947 (no documentation)
- 1945 Department of Navy uses the landing field as a municipal landing field
- 1942 Navy used northern portion of the site as an explosives x-ray laboratory (x-ray examination & disassembly)

Fort Townsend History (cont'd.)

- The fort was listed as excess in 1944
- Southwestern portion was conveyed for the Jefferson County International Airport (1947-1959)
- 1958 Washington State Parks and Recreation Commission purchased the northeastern portion for Old Fort Townsend State Park


Demo Range
Burn Pit
Possible Small Arms Range
Port Hadlock-Irondale

Demo Range

- Excess munitions were disposed of by detonation in pits on the beach. Included was a wide array of explosives, both foreign and domestic, including torpedoes, mines, TNT, dynamite, Japanese balloon bombs, grenades, and depth charges (interview)

- Used from 1944 to 1946

- The beach area was extensively searched with magnetometer during the ASR site walk and only expended cartridge casings could be found

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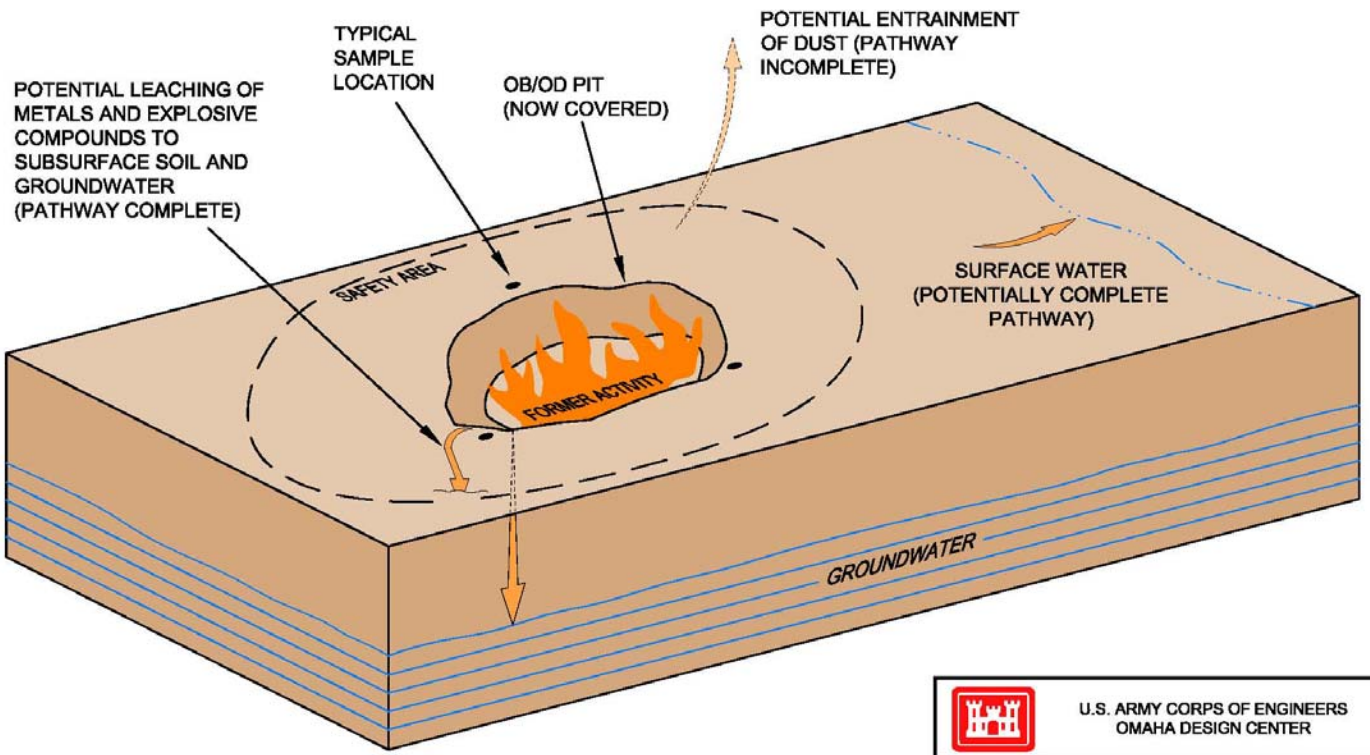

RECEPTORS:

- Landowners
- Biota (wildlife)

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FIGURE 5

CONCEPTUAL SITE MODEL
OPEN BURNING/OPEN DETONATION PIT

FORMER FORT TOWNSEND

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Burn Pit

- During the 2003 site inspection, a small burn pit was found off the southeast corner of the parade grounds, between an outhouse and the park marker that indicated the end of the walking trail.
- Used from approximately 1875 to 1885
- Area of burn pit is six square feet and 2 to 3 inches deep
- Charred and burst small arms brass (dated 1800s), small pieces of melted glass, and a few sporadic pieces of lead slag were found

Possible Small Arms Range

- Interviewee referenced that a small arms range was located in the vicinity of the present day Jefferson County Airport
- Location of the area could not be confirmed
- 30-06 brass reportedly found

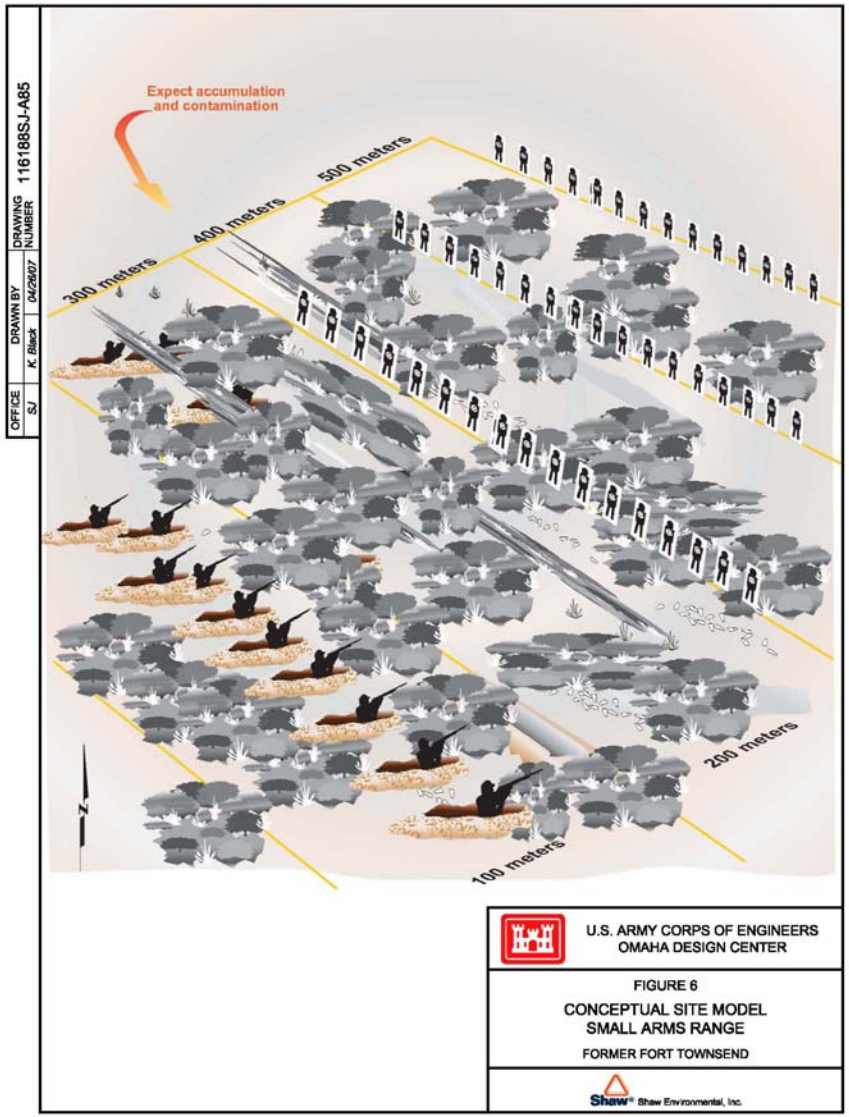
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FIGURE 6
CONCEPTUAL SITE MODEL
SMALL ARMS RANGE
FORMER FORT TOWNSEND
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Current & Future Use

- State of Washington. – State park for camping and hiking - 369 acres
- Eagle Eye, Inc. – forest for timber production - 117 acres
- Port of Port Townsend – county airport - 128 acres.

MEC Characteristics at Fort Townsend

- Demo Range materials
  - (foreign and domestic torpedoes, mines, TNT, dynamite, Japanese balloon bombs, grenades, depth charges)
- Small arms

MC Characteristics at Fort Townsend

- Demo Range
  - Metal (Cr, Cu, Pb, Fe, Mn, and Ni)
  - Explosives (TNT, RDX, PETN, black powder)
- Small Arms
  - Lead, nitrocellulose, nitroglycerin

MEC Approach

- Interpret results of historical review, interviews, observations, SI recon
- Find MEC, then further investigation may be required
- Find no evidence of munitions activity, then No DoD Action Indicated (NDAI)

MC Approach

- Interpret results of historical review, interviews, observations, SI recon
- Eliminate a site from further action (No DoD Action Indicated [NDAI])
  - MC concentrations < background and action level
- Determine potential need to investigate further

  MC concentrations > background and action level
  - Remedial Investigation (RI)
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MC Pathways

- Soil (primary means) – potentially affected
- Surface Water – potentially affected (Puget Sound)
- Sediment – no pathway
- Groundwater – potentially affected
- Air – potentially affected

Planned Field Investigation – Demo Range

- Visual reconnaissance
  - Hand-held magnetometer
  - Identify sampling locations
  - Aid in worker safety
- One surface soil (beach) sample
- Sample analyzed for select metals (chromium, iron, copper, lead, manganese, and nickel) and explosives (including nitroglycerin and pentaerythritol tetranitrate [PETN])

Planned Investigation – Burn Pit

- Visual reconnaissance
  - Hand-held magnetometer
  - Identify sampling locations
  - Aid in worker safety
- One surface soil sample
- Sample analyzed for lead only

Planned Investigation – Possible Small Arms Range

- Visual reconnaissance
  - Hand-held magnetometer
  - Identify sampling locations
  - Aid in worker safety
- One contingent surface soil sample if MEC is found during visual reconnaissance
- Sample analyzed for lead only

Planned Field Investigation – Background

- Three background surface soil samples and three background beach samples
- Samples analyzed for target analyte metals (aluminum, chromium, iron, copper, lead, manganese, and nickel)
- No sediment, surface water, or groundwater samples
- No air samples will be collected. Analytical results from soil samples can be used in the evaluation of the air pathway

Where Do We Go From Here?

- Draft TPP Memorandum – June 1, 2007
- Final TPP Memorandum – August 14, 2007
- Draft SSWP – August 14, 2007
- Final SSWP – October 28, 2007
- Start Field Work – early November 2007
- Draft final SI – March 10, 2008
- Final SI – May 24, 2008

What If I Find Munitions?

- Do Not Touch or Move
- Mark Location
- Call State or Local Police Immediately
- Don’t Assume Because It Has Been Lying Around for 60+ Years That It is SAFE!

Questions?

Human Health Risk-Based Screening Levels

- See Tables at back of TPP Meeting Package
- Risk-based screening levels DO NOT imply clean up levels

Ecological Risk-Based Screening Levels

- See Tables at back of TPP Meeting Package
- Risk-based screening levels DO NOT imply clean up levels

Access Agreements

- USACE will obtain rights-of-entry
- Landowners identified?
- Other Issues?

Action Items?